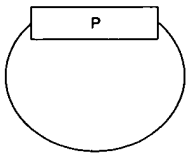
2. AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

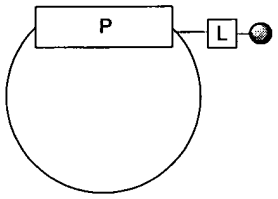
1-7. (Canceled)

8. (Currently Amended) A method of synthesis of a cyclic peptide or peptidomimetic compound of General Formula I



General Formula I

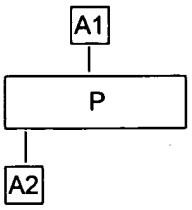
or General Formula II



General Formula II

where L in General Formula II is a linker unit linking the cyclic peptide to a solid support  , in which the cycle is a monocycle, bicycle or higher order cycle comprising 1 to 15 monomers, which is carried out in solution, comprising the steps of:

a) Preparing a linear peptide or peptidomimetic compound of General Formula III



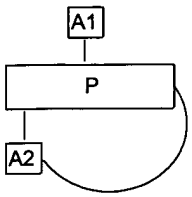
General Formula III

where P is ~~an amino acid or~~ a linear peptide or peptidomimetic compound of 2 to 15 monomers;

A1 is one or more N-substituents, either reversible or non-reversible, on the peptide backbone, or is a chemical moiety that forces a *cis* conformation of the backbone, and

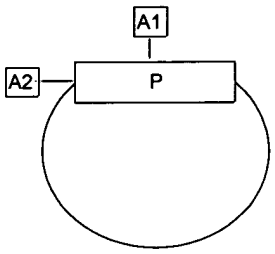
A2 is a covalently-bonded group of atoms comprising a reactive functionality to form an initial large cyclic peptide prior to ring contraction to the desired substituted cyclic peptide;

b) Activating the *C*-terminus to form a cyclic peptide or peptidomimetic compound of General Formula IV:



General Formula IV

c) Permitting the peptide or peptidomimetic compound of General Formula IV to rearrange via a ring contraction reaction to form a cyclic peptide or peptidomimetic compound of General Formula V; and optionally



General Formula V

d) Subjecting the cyclic peptide or peptidomimetic compound of General Formula V to a deprotection reaction to remove the groups A1 and A2 to yield the desired cyclic peptide or peptidomimetic compound of General Formula I.

9. (Previously Presented) The method of claim 8, in which P is a linear peptide of 2 to 10 monomers.

10. (Previously Presented) The method of claim 9, in which P is a linear peptide of 2 to 5 monomers.

11. (Previously Presented) The method of claim 8, in which A1 is left attached to the peptide, A2 is left attached to the peptide or both A1 and A2 are left attached to the peptide.

12. (Previously Presented) The method of claim 11, in which A1 is subsequently linked to a solid support or linked to another cyclic peptide or peptidomimetic compound; A2 is subsequently linked to a solid support or linked to another cyclic peptide or peptidomimetic compound; or both A1 and A2 are subsequently linked to a solid support or linked to another cyclic peptide or peptidomimetic compound.

13. (Previously Presented) The method of claim 8, in which A1 is a reversible N-substituent.

14. (Previously Presented) The method of claim 13, in which A1 is a 2-hydroxy-4-methoxybenzyl, 2-hydroxybenzyl or 2-hydroxy-6-nitrobenzyl substituent.

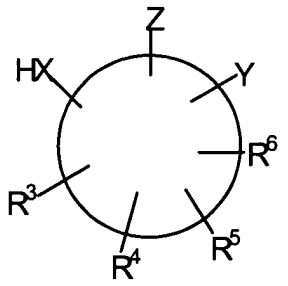
15. (Previously Presented) The method of claim 8, in which A2 is eliminated by spontaneous ring contraction.

16. (Previously Presented) The method of claim 8, in which A2 comprises a nucleophile that reacts rapidly with a *C*-terminus to form an initial large ring, which then contracts either spontaneously, or upon heating or additional chemical treatment.

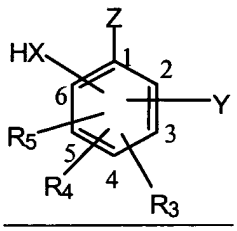
17. (Previously Presented) The method of claim 16, in which A2 is thiol or hydroxyl.

18. (Previously Presented) The method of claim 8, in which A2 is an irreversible substituent, A2 is removed after ring contraction, or A2 is eliminated spontaneously upon ring contraction.

19. (Currently Amended) The method of claim 8, in which A2 is formed by reacting an amino nitrogen in P with a compound of general formula [(a):



(a)]



in which the ring

(a) is an aromatic 6-membered ring;

(b) comprises 3 carbon atoms substituted respectively by XH, Z, and Y; and

(c) is additionally substituted,

in which

X is oxygen, sulphur, CH_2O-, or CH_2S-;

Y is an electron-withdrawing group;

Z is any group which allows the formation of a covalent carbon-nitrogen bond; and

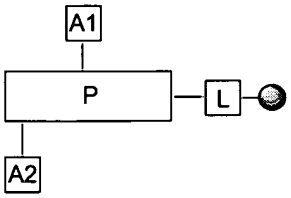
R^3, R^4 and R^5 are each independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, arylalkyl, substituted arylalkyl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, XH or Y, or a covalent linkage to a solid support, and

in which R^3 and R^4 or R^4 and R^5 can optionally together with the ring form a 5-, 6-, or 7- membered ring.

20-31. (Canceled)

32. (Currently Amended) A method of solid phase synthesis of a cyclic peptide, comprising the steps of

a) synthesis of a linear solid support-bound peptide of General Formula XIII,



General Formula XIII

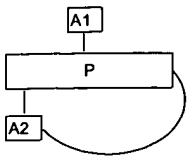
where P is ~~an amino acid or~~ a linear peptide of 2 to 15 monomers;

A1 is one or more N-substituents, either reversible or non-reversible, on the peptide backbone, or is a chemical moiety that forces a *cis* conformation of the backbone, and

A2 is a covalently-bonded group of atoms comprising a reactive functionality to form an initial large cyclic peptide prior to ring contraction to the desired substituted cyclic peptide;

L is a linker between any atom of the peptide and the solid support, and

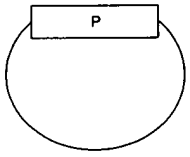
b) subjecting the peptide of General Formula XIII to cyclisation and concomitant cleavage from the solid support to yield a cyclic peptide of General Formula XIV,



General Formula XIV

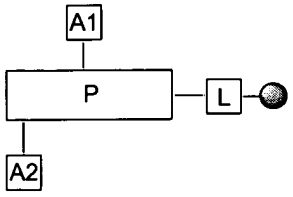
c) subjecting the cyclic peptide of General Formula XIV to ring contraction, and

d) if A1 is a reversible substituent, cleaving the groups A1 and A2 to yield the desired cyclic peptide of General Formula I:



33. (Currently Amended) A method of solid phase synthesis of a cyclic peptide, comprising the steps of;

a) synthesis of a linear solid support-bound peptide of General Formula XIII,



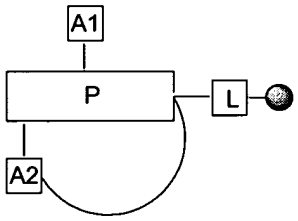
where P is ~~an amino acid or~~ a linear peptide of 2 to 15 monomers;

A1 is one or more N-substituents, either reversible or non-reversible, on the peptide backbone, or is a chemical moiety that forces a *cis* conformation of the backbone, and

A2 is a covalently-bonded group of atoms comprising a reactive functionality to form an initial large cyclic peptide prior to ring contraction to the desired substituted cyclic peptide;

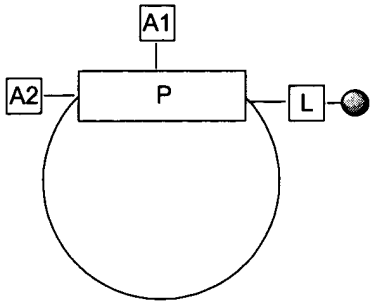
L is a linker between any atom of the peptide and the solid support, and

b) subjecting the linear peptide to cyclisation on the solid support to yield a cyclic peptide of General Formula XV,



General Formula XV

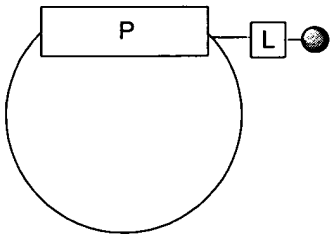
c) subjecting the cyclic peptide to ring contraction to yield a cyclic peptide of General Formula XVI,



General Formula XVI

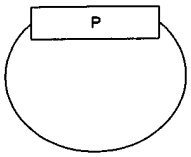
and either

d) cleaving groups A1 and A2 while the peptide is bound to the solid support to yield a resin-bound cyclic peptide of General Formula II, or



General Formula II

e) subjecting the cyclic peptide to deprotection and concomitant cleavage from the solid support to yield the desired cyclic peptide of General Formula I



34. (Previously Presented) The method of claim 33, in which side chain deprotection of the peptide, removal of A1 and cleavage from the solid support are performed separately.

35. (Previously Presented) The method of claim 33, in which side chain deprotection of the peptide, removal of A1 and cleavage from the solid support are performed concurrently.

36-38. (Canceled)

39. (Previously Presented) The method of claim 32, in which one or more of the monomers carries a side chain protecting group.

40. (Previously Presented) The method of claim 33, in which one or more of the monomers carries a side chain protecting group.

41-43. (Canceled)

44. (Previously Presented) The method of claim 8, in which A1 is a *cis*-amide bond surrogate.

45. (Previously Presented) The method of claim 44, in which the *cis*-amide bond surrogate is a tetrazole.

46. (Currently Amended) The method of claim 8, in which A2 is selected from the group consisting of

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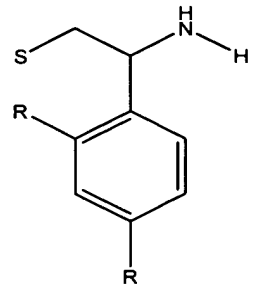
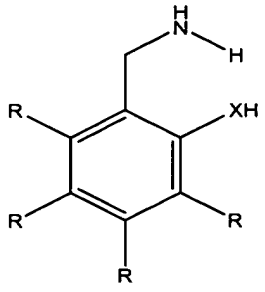
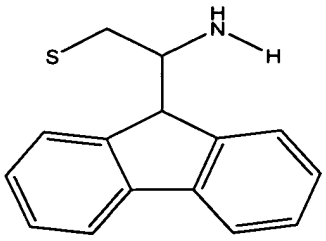


R=H,OMe

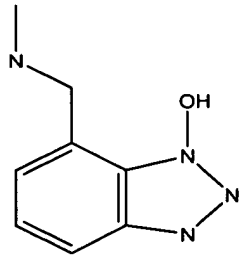


R=H,NO2
X=O,S



R'=peptide

and



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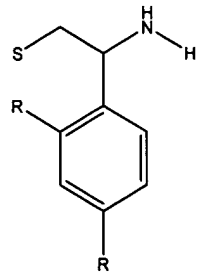

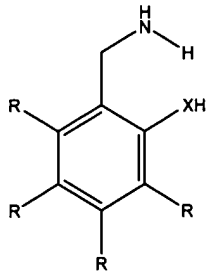

R=H, OMe R=H, NO_2

X=O,S

47. (Previously Presented) The method of claim 8, in which A2 is 6-nitro-2-hydroxybenzyl, 4-nitro-2-hydroxybenzyl or 5-nitro-2-hydroxybenzyl.

48. (Currently Amended) The method of claim 19, in which A2 is selected from the group consisting of

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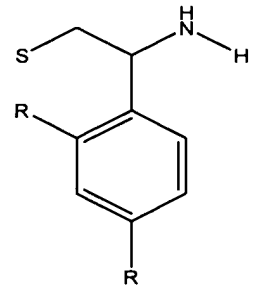
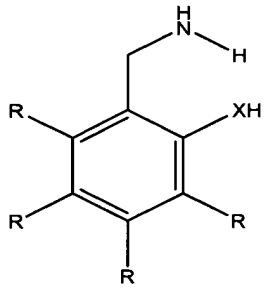
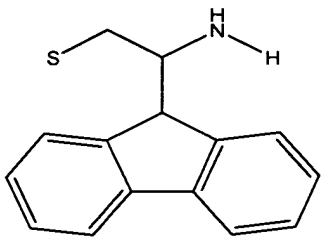


R=H,OMe

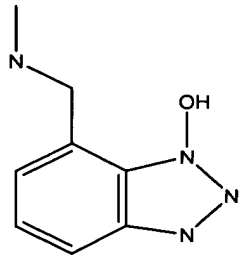


R=H,NO2
X=O,S



R'=peptide

and



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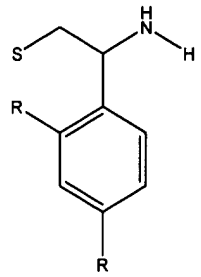

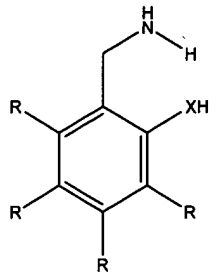

R=H, OMe R=H, NO_2

X=O,S

49. (Previously Presented) The method of claim 19, in which A2 is 6-nitro-2-hydroxybenzyl, 4-nitro-2-hydroxybenzyl or 5-nitro-2-hydroxybenzyl.

50. (Previously Presented) The method of claim 8, in which the ring contraction reaction occurs spontaneously.

51. (Previously Presented) The method of claim 32, in which the ring contraction reaction occurs spontaneously.

52. (Previously Presented) The method of claim 33, in which the ring contraction reaction occurs spontaneously.